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Gerow D. Brill
Reveo, Inc.
85 Executive Blvd.
Elmsford, NY 10523

EXAMINER	
CHANG, AUDREY Y	
ART UNIT	**PAPER NUMBER**
2872	

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/873,509	MAEDA ET AL.	
	Examin r	Art Unit	
	Audrey Y. Chang	2872	

-- Th MAILING DATE of this communication appears on th cov r she t with the corr spondenc addr ss --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *08 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 8-26 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 8-26 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on April 8, 2004, which has been entered into the file.
- By this amendment, the applicant has amended claims 8-26.
- Claims 8-26 remain pending in this application.

Response to Amendment

1. **The amendment filed on April 8, 2004** is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: **claims 8 and 22 have been amended** to include the feature having the 3D image display body configured for bonding to the surface of a liquid crystal display, and claim 22 has been amended to include the feature having the protective member disposed **on** the laminated phase difference. The specification fails to give support for the *liquid crystal display* and fails to give support for the protective member being disposed **on** the laminated phase difference film it is rather disposed on the resist member as shown in Figure 2.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 8-26 are rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The reasons for rejections based on the new matters added to the specification are set forth in the paragraphs above.

4. **Claims 8-26 are rejected under 35 U.S.C. 112, first paragraph**, as containing subject matter which was not described in the specification in such a way as to **enable** one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The reasons for rejection are set forth in the previous Office Action.

The specification and the claims **fail** to teach how could by laminating a phase difference film onto a transparent support and by attaching resist members in specified positions onto the phase difference film as recited in claims 8 and 22 is able to "*manufacture a 3D image display body for displaying 3D images*". The body of the claims **completely** fail to support and fail to provide any essential or even related structure to achieve the claim for "manufacture a 3D image display body for displaying 3D images". The claims as stated now **fail** to establish the **enablement of** displaying 3D images by the 3D image body. No relevant image information is ever being stated or presented and it is not clear how does this display body is ever be able to display image not to mention to display 3D image. The claims as stand now even fail to identify what is this "3D image body". Furthermore, the specification and the claims fail to teach how could resist members would have "right eye image display parts and left eye display part", (as claimed in claim 22). Resist member is just a resist layer which will not be able to have any image part by its own.

The specification and the claims also fail to teach how could a *half wave plate* capable of being used with a 3D display to create 3D viewing. The retarder **has to be** patterned and be working with a

polarizer, (as shown in Figure 14e of cited Faris reference (PN. 6,359,664)) in order to provided micro-polarizer pattern to allow selectively displaying left eye and right eye image respectfully to create stereoscopic viewing.

The specification fails to teach what is considered to be the "phase difference film" and fails to teach how could the phase difference film *not* possess *birefringence* is capable of providing retardation phase difference (i.e. as a wave plate) or polarizing effect to the light.

The applicant is respectfully reminded that the specification and claims **fail** to teach a polarizer or phase difference film that is **capable** of being used in a 3D image display to enable 3D image viewing, if such limitation is intended here. In order to create 3D image viewing, the essential requirement of the polarizer or phase difference film is to have **patterned** and **alternatively arranged polarization regions** with orthogonal polarization states, respectively, in *accordance* to the alternatively arranged left and right eye images.

Clarifications are required.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 8-26 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection are set forth in the previous Office Action.

The phrase "3D image display body" recited in claims 8 and 22 is confusing and indefinite since it is not clear what is considered here to be the "image display body".

The phrases "a transparent support", "an adhesive agent", "resist members" and "a protective member" recited in claims 11 and 22 are confusing and indefinite since it is not clear how do they each relate to the transparent support, the adhesive agent, the resist members and the protective member recited in their base claim (8).

The phrase "appropriate members" recited in claims 13, 15, and 16 is confusing and indefinite since it is not clear what is considered to be "*appropriate*" here. The term "appropriate" fails to define a definite metes and bound for the claims. It is not clear the member is considered to be "appropriate" with respect to what. The above-mentioned phrase recited in claims 15 and 16 further lacks an antecedent basis from its based claim.

The phrase "right-eye image display parts" and the phrase "left-eye image display parts" recited in the claims are confusing since it is not clear if they are referred to the *images* themselves or not. If not what is considered to be "image display *part*". Furthermore, it is not clear how could the "resist" to have right and left image display *part*. It is understood in the art that left and right image distinction is provided by the patterned polarizer not by the resist. The resist has *no optical effect* what so ever to the device. **Clarifications are required.**

Claims 8 and 22 have been amended to include the feature that the "3D image display body" is configured for bonding to liquid crystal display, yet the claims fail to teach what is the **structural** and **logical relationship** between the liquid crystal display and 3D image display body to make the claims describing a complete and operable device.

The claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. **The applicant is respectfully reminded to clear out ALL of the discrepancies of the claims to make the claims in comply with the requirements of 35 USC 112, first and second paragraphs. The claims as stand now fail to provide definite metes and bounds that are**

sought for patent. The claims as stand now also fail to provide an operable device and an operable method for making the device.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 8-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Faris (PN. 6,359,664) in view of the patent issued to Okamoto (PN. 6,147,738).

Faris teaches a *display system* for visually displaying a *polarized spatially multiplexed image* (SMI) (48 of Figure 15b) of a *3D object, having left eye image and right eye image mixed within*, for use in stereoscopic viewing, (please see Figure 15b). The stereoscopic viewing is enabled by having a *micropolarizer* (49) having mixed regions of *orthogonally polarization states* (P1 and P2) that are aligned with the mixed left and right eye image respectively such that the right eye and left eye image are coded with orthogonal polarization states (P1 and P2), (the micropolarizer therefore includes the left eye and right eye image display parts), respectively and then with the help of a spectacle (9) the left and right eye images could be viewed by left and right eye respectively of an observer. Faris teaches that the *micropolarizer is manufactured* by *laminating* a *PVA film (51, Figure 12a) with a CAB or TAC film (52)* that together serve as the *laminated polarizing film, (or phase difference film)*, and disposing a *photoresist film* (53) at specific locations (please see Figure 12c). The combination is then bleached in a hot humid atmosphere, which implicitly includes *hot water* and *drying* step afterwards, so that the areas that are not covered by the photoresist is exposed to loss the polarizability, (please see Figure 12h, column 11, lines 61-67). The micropolarizer (49) having alternative regions or patterned regions of polarization states is

formed as shown in Figures 12g, 12k and 16a and 16b. The micropolarizer is then *superimposed* or *bonded* with the *spatially multiplexed image* (SMI) that could be provided by either a photographic plate or known display device, such as CRT or **LCD**, (please see column 7), which serves as the *display member.*

This reference has met all the limitations of the claims. Faris teaches that the micropolarizer and **the SMI may be represented by display device such as CRT and LCD** which implicitly includes transparent plate that serves as the *transparent support member* however it does not teach explicitly to include protective layer and adhesive layer. ***Okamoto*** in the same field of endeavor teaches a polarizer (18 in Figure 1) utilized in a liquid crystal display device wherein the polarizer layer (19, Figure 3) is interposed between a pair of TAC film (20 and 21) and is adhered via an *adhesive layer* (24) to a *transparent glass substrate* (9). The polarizer is also protected by a *protective film* (23), (please see Figures 1 and 3). It would then have been obvious to one having ordinary skill in the art to modify the micropolarizer (49) of Faris to make it adhered to a glass substrate via an adhesive layer and to be covered with a protective layer for the benefit of easy adoption of the micropolarizer to the display device or display member for the stereoscopic viewing and for the benefit of protecting it from foreign dusts therefore enhancing the viewing quality. With regard to claims 15, the protective film is inherently without birefringent property so that it does not interfere with the polarization property of the polarizer.

With regard to the feature having the protective film attached to the resist member, (with respect to the amended claim 22, concerning the resist member being PVA type film), Okamoto teaches that a PVA film (21), which can serve as the resist film, is formed on the polarizer (19, or drawn PVA film) and a protective film is placed on top of the PVA film.

These references also do not teach that the protective film is attached to the resist members. However to attach the protective film to the resist members or to the TAC film as shown by the teachings of Okamoto would not change the function of the polarizer and since the specification fails to teach the

criticality of having such arrangement would overcome any problem in the prior art such modification is considered to be obvious matters of design choice to one skilled in the art for the benefit of providing alternative arrangement for the polarizer. Faris teaches that the photoresist members has the identical function as the resist in the instant application for covering the PVA film and forming a pattern of the covering on the PVA film before the step of immersing it in hot water to form patterned polarization and non-polarization regions, (please see Figures 12a-12h). Faris teaches an extra step to remove the photoresist after forming the micropolarizer. It would however have been obvious to one skilled in the art to skip such stripping step to allow the photoresist layer remained on the polarizing film for the benefit of reducing manufacturing cost. It is implicitly true that the micropolarizer functions the same with or without the photoresist members present since the *photoresist members do not have any polarizing effect or any optical effect and will not provide phase shift to provide retardation effect.*

With regard to claim 9, Faris teaches that the polarizer formed can have linear polarization state, (please see column 5, lines 20-21).

With regard to claims 13, 25 and 26, Faris teaches that the photoresist members form strip or square forms with repeated filled (with) and unfilled (without) regions of the photoresist, (please see Figure 12h). Faris also teaches that the size of photoresist members determines the size of polarization regions of the micropolarizer, which should be corresponding to the pixel size of the display. The pixel size is about 0.1 mm which is about 100 μm, (please see column 7, line 60). As judging from Figures 16a and 16b, the pitch of the regions should also be of the size of the pixel. Although it does not specifically teaches it to be 160μm, however since ***the idea is*** to have the polarization regions be corresponding to the image size, as taught by Faris, to modify the actual size of the polarization regions and the photoresist members for the purpose of matching the pixel size or image size of the display is considered to be obvious matters of design choice since it has been held when the general conditions of a claim are

disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

With regard to claims 13, 15, 16 and 22, these references do not teach to include "an appropriate members" for filling between the resist members at the specific locations. However, the specification fails to teach the criticality of having this arrangement would overcome any problem in the prior art. The appropriate member, which is not defined by the specification and claims (for reasons stated in paragraphs above for 35 USC 112, second paragraph rejection), and does not seem to have any optical function in this arrangement. It is obvious to one skilled in the art then that whether to provide such member or not **will not effect** the optical function of the polarizer device. Such modification therefore is considered to be an obvious matters of design choice to one skilled in the art for perhaps the reasons to add protection to the polarizer film as also demonstrated by the teachings of Okamoto. The claimed materials are commonly known materials in the art as layer materials.

With regard to feature concerning the drawn PVA film, Faris teaches that the PVA film is stretched to obtain polarization property. Faris teaches that the PVA film is of 10-20 micron thick but it does not teach explicitly that it is of 38 micron. However the specification fails to teach the criticality of having this particular thickness will overcome any problem in the prior art and the micropolarizer functions the same as the instant application, such modification is therefore considered to be obvious matters of design choice for the benefit of providing different arrangement for the film.

With regard to claim 18, Faris teaches that the TAC or CAB film is of a thickness of 125 μm, which is essentially the same as 126 μm.

With regard to claim 21, Faris teaches the bleaching process for the PVA film to depolarize the uncovered regions is done by immersing the film in hot water based bleacher, however this reference does not teach explicitly that the immersing process is for 30 seconds at a temperature of 80 degrees Celsius. However since Faris is capable of forming the micropolarizer that functions the same as the instant

application the process is therefore either implicitly included or obvious modification to one skilled in the art. Since the specification fails to teach the criticality of having this particular process would overcome any problem in the prior art, even if this process is not the same as in the prior art reference such modification would have been an obvious modification to one skilled in the art for the benefit of providing alternating way for forming the micropolarizer.

With regard to claims 20 and 24, Faris in a different embodiment, teaches that the PVA film may be formed to have patterned π phase regions (67 in Figure 13e or 73, Figure 14e) such that the patterned film form a half wave retarder, (please see Figures 13a-13e). This means the patterned regions (67 or 73) impart a phase difference of 180 degree to the light passes them as compared to the light passed the regions without the patterned film. In this case the PVA film is not a polarizer.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. **Claims 8-26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting** as being unpatentable over claims 10-28 of copending ***Application No. 09/874,415***. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both recite a method for manufacturing a 3D image display body including the step of

forming a laminated phase difference film by laminating a PAV film with a CAB or TAC film, the step of disposing resist members at specific locations, the step of providing protective film and the step of superposing it on a display member.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. **Claims 8-26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting** as being unpatentable over claims 1-9 of copending ***Application No. 09/873,690.*** Although the conflicting claims are not identical, they are not patentably distinct from each other because they both recite a method for manufacturing a 3D image display body including the step of forming a laminated phase difference film by laminating a PAV film with a CAB or TAC film, the step of disposing resist members at specific locations, the step of providing protective film and the step of superposing it on a display member.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

12. Applicant's arguments filed on April 8, 2004 have been fully considered but they are not persuasive.

13. The applicant is **respectfully** noted that the claims as stand now **DO NOT** disclose an **operable** 3D image display as claimed. In order for the device to display 3D image, based on polarization scheme, the following **criterions** must be provided:

(1) orthogonally polarized left eye image and right eye image,

(2) a micropolarizer having alternative polarizing regions that are orthogonally polarized with each other, wherein the corresponding polarizing regions are matched with the polarized left eye

and right eye images, so that right eye image and left eye image will only be transmitted through alternative regions of the micropolarizer,

(3) a pair of spectacle with orthogonally polarized lenses for the right eye and left eye view, so that the left eye image and right eye image will **only** be received by the left eye and right eye of an observer **respectively**.

The disclosure of the instant application **completely fails** to provide such necessary elements to create 3D image. The instant application states to have resist members located at "specification locations" of the laminated phase difference film and using hot water to *erase* the polarization of the uncovered part of the resist member and the phase difference film, and then filled the spaces between the resist member with "appropriate member" which is **of no polarization in nature, (incidentally, none of the claims have come close to even disclose the "invention" in this clear manner**). The result of the display body will have certain regions with *one polarization state*, and certain regions with *NO polarization*. If left eye and right eye image are transmitted through the display body BOTH of the left eye and right eye images will be seen by BOTH of the eyes which WILL NOT give 3D display. In particular, the regions with "*appropriate member*" both the right eye and left eye image will be able to pass through and **be seen by both eyes** which then will destroy the possibility of the 3D display. **The applicant is respectfully requested to make the claims to describe an operable device. At this juncture, the claims are not operable.**

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Audrey Y. Chang
Primary Examiner
Art Unit 2872

A. Chang, Ph.D.